

Operations

- ☐ Nominal and contingency plans have been developed and reviewed.
- ☐ Team training includes contingency operations.
- ☐ Mission rules have been defined.
- ☐ Operations team has executed mission rules in training simulations.
- ☐ Appropriate telemetry is available during mission-critical operations.
- ☐ Ground operations requirements and planning have been developed.
- ☐ Key design team personnel are included on the operations team.

Documentation

- ☐ Design decisions/limitations have been documented and communicated.
- ☐ Documentation required by NPG 7120.5/MPG 7120.1 has been developed.
- ☐ Project documentation is readily available to project personnel.
- ☐ Electronic/Web-based documentation is available where possible.

Technology Readiness

- ☐ Technology maturity levels are appropriate for the project and the maturation schedule is compatible with project needs.
- ☐ All appropriate potential new technologies have been considered.
- ☐ Planning is in place to train personnel on new technologies.
- ☐ Off ramps have been defined for critical technologies that may not mature as required.

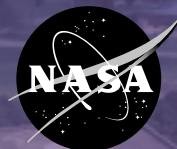


We want your feedback. Please contact smo@msfc.nasa.gov to give comments, make suggestions, or ask questions about this checklist.

MSFC Project Managers' *Checklist*

Project managers have broad responsibilities. This checklist is designed to facilitate project success by capturing key management areas identified in recent reports (such as the NIAT and MCO), lessons learned, approved MSFC processes, and other business activities.

While it is not intended to encompass all functions, proper management of these activities will greatly improve the probability of project success. This checklist should be reviewed on a regular basis and negative responses should be tracked until they are closed.



National Aeronautics and
Space Administration

George C. Marshall Space Flight Center

NP-2002-08-136-MSFC

Pub 8-40032

Organization/Staffing

- ❑ Adequate staffing, including Safety and Mission Assurance and other support, is in place or actions are in work to address gaps.
- ❑ Project team has completed team building training.
- ❑ Project oriented Work Breakdown Structure has been developed.
- ❑ Roles and responsibilities, including Lead Systems Engineer, have been defined and communicated, and appropriate agreements are in place.
- ❑ Ground and flight operations personnel are included in the development team.
- ❑ Planned technical insight is commensurate with risk areas and COFR requirements.

Communications

- ❑ Team members are encouraged to identify issues for discussion.
- ❑ Top issues are defined, reviewed, and acted upon regularly.
- ❑ Project status/issues are regularly reported to line management.
- ❑ Mission success criteria have been defined and are regularly communicated to team members.
- ❑ Safety first and other MSFC values are regularly communicated to the project team.
- ❑ Lessons Learned are researched and applied.
- ❑ Project actions are formally tracked.

Systems Engineering

- ❑ Appropriate flight and ground trade studies have been conducted.
- ❑ Mission architecture and systems design includes adequate data for possible failure investigation.

- ❑ A Configuration Management process is in place.
- ❑ Technical performance metrics have been defined and are being regularly tracked.
- ❑ Project requirements have been developed and reviewed with the customer.
- ❑ Project requirements have been flowed down to required lower-level specifications.
- ❑ Verification planning has been developed to address each requirement, including interfaces.
- ❑ Independent verification and validation has been planned.
- ❑ Verification planning includes contingency and redundancy testing.
- ❑ Adequate end-to-end testing has been planned.
- ❑ Change process ensures assessment for retest after configuration changes.
- ❑ System-level tests are conducted in the flight configuration.
- ❑ Interfaces are defined and documented.

Cost/Schedule

- ❑ Effective incentives and controls are in place for contractors.
- ❑ An integrated project schedule has been developed and the critical path is known and tracked.
- ❑ Adequate Earned Value Management measures are in place.
- ❑ Adequate cost and schedule reserves are in place.
- ❑ The project team appreciates and understands the interdependency of the technical, schedule, risk, cost planning, and performance aspects of the project.

- ❑ Cost and schedule metrics have been defined.
- ❑ The project team questions every cost, workforce, or schedule variance.
- ❑ NASA Life Cycle Cost Estimate has been developed.
- ❑ Impacts of externally imposed changes are documented.
- ❑ The project team understands and analyzes contract status.
- ❑ Institutional requirements are identified and funded.

Risk Management

- ❑ Risk management process includes use of appropriate tools (e.g., fault tree, FMEA, PRA).
- ❑ Project risks are regularly tracked, managed, and reported.
- ❑ Single-point failures have been identified and eliminated or justified.
- ❑ Risk Management Plan has been developed.
- ❑ The project team has completed risk management training.

Reviews

- ❑ Project reviews have been defined and review plans developed.
- ❑ Peer reviews have been planned for critical areas.
- ❑ Appropriate external independent reviews have been planned.
- ❑ Review teams include proper discipline and independent experts.
- ❑ Review results are presented to appropriate management level(s).
- ❑ Required PMC/GPMC reviews have been scheduled.